



Docket No. 8734.215
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Nam Young KONG

Customer No. 30827

Application No. 10/606,846

Confirmation No. 4819

Filed: June 27, 2003

Art Unit: 2629

For: APPARATUS AND METHOD FOR DRIVING
TOUCH PANEL DEVICE

Examiner: Henry N. Tran

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S BRIEF

Sir:

In response to a Final Rejection of all pending claims that was mailed on April 27, 2006 and the Advisory Action of August 3, 2006, and in support of a "Notice of Appeal" filed August 25, 2006, Appellant hereby submits this Appeal Brief.

The fees required under § 37 C.F.R. §1.17(f) and any required petition for extension of time for filing this brief and fees therefore are provided for in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37(c):

- I. Real Party In Interest**
- II. Related Appeals and Interferences**
- III. Status of Claims**
- IV. Status of Amendments**
- V. Summary of Claimed Subject Matter**

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VI. Grounds of Rejection to be Reviewed on Appeal

VII. Argument

VIII. Claims Appendix

IX. Evidence Appendix

X. Related Proceedings Appendix

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is: LG.PHILIPS LCD CO., LTD.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Total Number of Claims in the Application

There are 15 claims pending in the application.

Current Status of Claims

Claims canceled: N/A.

Claims withdrawn from consideration but not canceled: N/A.

Claims pending: 1-15.

Claims allowed: None.

Claims rejected: 1-15.

Claims On Appeal: The claims on Appeal are claims 1-15.

IV. STATUS OF AMENDMENTS

The Examiner issued a Final Rejection on April 27, 2006 and an Advisory Action on August 3, 2006. No Amendment has been filed in response to this Final Rejection or Advisory Action. Accordingly, the claims enclosed in the Claims Appendix reflect the current status of claims 1-15.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following summary of the claimed subject matter includes a description of the independent claims 1, 10 and 11. The present invention is directed to a touch panel device, and more particularly, to an apparatus and method for driving a touch panel device. The driving apparatus of a touch panel includes at least a touch panel (Figures 5 and 7, touch panel 32) for generating a coordinate signal according to a position of a contact point, at least two interface integrated circuits (54a – 54n of Figure 6) connected to the touch panel (32), a computer system (42 of Figures 5-7) driving the touch panel (32) and connected to any one of the at least two interface integrated circuits (54a – 54n), a sensor (Figure 6, sensor 34) for automatically detecting the interface integrated circuit connected to the computer system (42) and a controller (Figures 5 and 7, controller 40) for converting the coordinate signal in accordance with the interface integrated circuit detected at the sensor (34) and transmitting the converted coordinate signal to the computer system (42).

A method of driving a touch panel device includes at least, sensing an interface integrated circuit connected to a computer system among at least two interface integrated circuits (Figure 8, S71), calculating a contact point as a coordinate value for a touch panel (Figure 8, at least step S74), converting the coordinate value in accordance with the interface integrated circuit (Figure 8, at least steps S72 and S73), selecting the sensed interface integrated circuit (Figure 8, at least step S75) and transmitting the converted coordinate value to the computer system through the selected interface integrated circuit (at least step S75 of Figure 8).

A method for driving a touch panel device includes at least, generating a coordinate signal according to a position of a contact point (Figure 8), driving the touch panel to be connected to any one of at least two interface integrated circuits (Figure 8), automatically detecting the interface integrated circuit connected to a computer system (Specification page 14 at [0046] and Figure 8), and converting the coordinate signal in accordance with the interface integrated circuit detected at a sensor and transmitting the converted coordinate signal to the computer system (Figure 8).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The Examiner rejected claims 1-15 under 35 U.S.C. §103(a) as allegedly unpatentable over United States Patent No. 5,995,084 (to Chan et al.)(hereinafter "Chan") in view of United States Patent No. 6,611,257 B1 (to Dotson et al.)(hereinafter "Dotson").

VII. ARGUMENT

- A. The Examiner improperly rejected claims 1-9 under 35 U.S.C. § 103(a) as allegedly unpatentable over Chan in view of Dotson.

Claims 1-9

In rejecting claim 1, the Examiner acknowledges that, “Chan does not expressly teach: ‘a sensor for automatically detecting the interface integrated circuit connected to the computer system’ (Office Action at page 4).” Attempting to cure the deficiencies of Chan, the Examiner then turns to Dotson and equates Dotson’s analogue switch matrix with that of Appellant’s claimed sensor. Appellant respectfully submits that Dotson’s analogue switch matrix (Dotson Figure 3, analogue switch matrix 104) and the claimed sensor are not the same. There are at least two significant structural and physical differences that exist between the Dotson analogue switch matrix and the claimed sensor.

First, Dotson’s analogue switch matrix is controlled by a plurality of registers (Dotson Figure 3, DIRECT register 110, DETECT register 112, DISCHARGE register 114, XSAMPLE register 116 and YSAMPLE register 118). However, the claimed sensor does not have a separate controller controlling the sensor. As can at least be seen in Appellant’s Figures 5 and 7, the sensor (34) is included as part of the touch controller (40).

Second, the claimed sensor of the present invention automatically detects the interface integrated circuit connected to the computer system and transmits the detected information to the controller. The controller is the selector (Claim 3). However, the outputs of the analogue switch matrix of Dotson are connected to the A/D converter. As shown in Dotson’s Figure 3, the analogue switch matrix (104) includes eight input/output (I/O) terminals (120-134) and allows the terminals (120-134) to be selectively connected to V_{DD} and V_{SS} power supply terminals, to an analogue input (IN) of the A/D converter (102) and to the voltage reference inputs (REF+, REF-) of the A/D converter (102)(See also, Dotson at Col. 6, Lines 35-40).

In addition to the noted structural and physical differences between the claimed sensor of the present invention and the analogue switch matrix of Dotson, there is no motivation to combine Chan with Dotson. The Examiner states, “this would provide the enhanced functionality of a touchpad computer interface, which would improve the versatility of a touch

system that is not only capable of providing pen or mouse input, but also able to distinguish and effectively use different types of touch panels or touch screens that is being automatically detected.” (Final Office Action at page 5). The alleged motivation is not found in the Dotson reference but instead has been gleaned from Appellant’s own Specification. The Examiner has used impermissible hindsight to combine the references and to reject the claims because the column and lines cited by the Examiner have nothing to do with the analog switch matrix but generally refer instead to the touch screen interface circuit. See, e.g., Abstract and Col. 6, Lines 55-60 (Dotson).

The claimed sensor of the present invention and Dotson’s analogue switch matrix are different from each other for at least all of the reasons as noted. Even if, *arguendo*, there is some teaching in Dotson on an analogue switch matrix, such a teaching is irrelevant because of the fundamental differences between the claimed sensor of the present invention and the analogue switch matrix of Dotson.

Claims 2-9 depend either directly or indirectly from claim 1 and implicitly include all of the limitations of claim 1. Accordingly, Appellant respectfully submits that the Examiner has not made a *prima facie* case of obviousness of claims 2-9 at least because of the respective dependencies of claims 2-9 and because of the reasons given for claim 1.

- B. The Examiner improperly rejected claim 10 under 35 U.S.C. § 103(a) as allegedly unpatentable over Chan in view of Dotson.

Claim 10

In rejecting claim 10, The Examiner did not specifically address what Chan allegedly teaches, lacks, and what Dotson allegedly teaches. The Examiner merely states, “Re claims 10-15, which are method claims corresponding to the apparatus claims 1, 3 and 6-9, and are rejected on the same basis set forth in claims 1, 3 and 6-9 discussed above (Final Office Action at page 6).” The Examiner has not provided any motivation to combine Chan with Dotson in view of the method claims. Further, Appellant’s arguments with respect to the rejection of claims 1-9 apply equally to the rejection of claim 10.

- C. The Examiner improperly rejected claims 11-15 under 35 U.S.C. § 103(a) as allegedly unpatentable over Chan in view of Dotson.

Claims 11-15

In rejecting claim 11, The Examiner did not specifically address what Chan allegedly teaches, lacks, and what Dotson allegedly teaches. The Examiner merely states, “Re claims 10-15, which are method claims corresponding to the apparatus claims 1, 3 and 6-9, and are rejected on the same basis set forth in claims 1, 3 and 6-9 discussed above (Final Office Action at page 6).” The Examiner has not provided any motivation to combine Chan with Dotson in view of the method claims. Further, Appellant’s arguments with respect to the rejection of claims 1-10 apply equally to the rejection of claims 11-15.

Claims 12-15 depend either directly or indirectly from claim 11 and implicitly include all of the limitations of claim 11. Accordingly, Appellant respectfully submits that the Examiner has not made a *prima facie* case of obviousness of claims 12-15 at least because of the respective dependencies of claims 12-15 and because of the reasons given for claim 11.

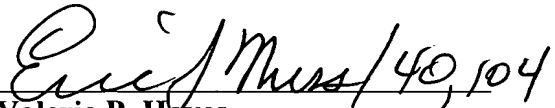
A copy of the claims involved in the present Appeal is attached hereto as the Claims Appendix.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under

37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

Dated: February 26, 2007

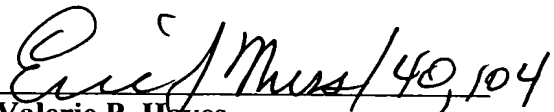
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Respectfully submitted,

Dated: February 26, 2007

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CLAIMS APPENDIX

Claims Involved In The Appeal Of Application No. 10/606,846:

1. A driving apparatus of a touch panel, comprising:
 - a touch panel for generating a coordinate signal according to a position of a contact point;
 - at least two interface integrated circuits connected to the touch panel;
 - a computer system driving the touch panel and connected to any one of the at least two interface integrated circuits;
 - a sensor for automatically detecting the interface integrated circuit connected to the computer system; and
 - a controller for converting the coordinate signal in accordance with the interface integrated circuit detected at the sensor and transmitting the converted coordinate signal to the computer system.
2. The driving apparatus according to claim 1, wherein at least one of the interface integrated circuit and the sensor is integrated with the controller.
3. The driving apparatus according to claim 1, wherein the controller includes:
 - an analog-to-digital converter for converting an coordinate signal of analog input from the touch panel into a coordinate signal of digital;
 - a microcomputer for converting the digital coordinate signal into a coordinate value in accordance with the interface integrated circuit sensed at the sensor; and

a selector for selecting the interface integrated circuit sensed at the sensor among the at least two interface integrated circuits.

4. The driving apparatus according to claim 3, wherein the sensor is integrated with the microcomputer.

5. The driving apparatus according to claim 1, further comprising:
at least two transmitting connectors corresponding to the at least two interface integrated circuits; and
at least two receiving connectors corresponding to the at least two transmitting connectors.

6. The driving apparatus according to claim 1, wherein the interface integrated circuit connected to the computer system includes serial communication.

7. The driving apparatus according to claim 6, wherein the sensor senses the interface integrated circuit connected to the computer system when a transmitting connector corresponding to the interface integrated circuit connected to the computer system is connected to a receiving connector.

8. The driving apparatus according to claim 1, wherein the interface integrated circuit connected to the computer system includes USB communication.

9. The driving apparatus according to claim 8, wherein the computer system transmits a sense control signal to the sensor when the computer system is connected to the interface integrated circuit.

10. A method of driving a touch panel device, comprising:
sensing an interface integrated circuit connected to a computer system among at least two interface integrated circuits;
calculating a contact point as a coordinate value for a touch panel;
converting the coordinate value in accordance with the interface integrated circuit;
selecting the sensed interface integrated circuit; and
transmitting the converted coordinate value to the computer system through the selected interface integrated circuit.

11. A method for driving a touch panel device, comprising:
generating a coordinate signal according to a position of a contact point;
driving the touch panel to be connected to any one of at least two interface integrated circuits;
automatically detecting the interface integrated circuit connected to a computer system; and
converting the coordinate signal in accordance with the interface integrated circuit detected at a sensor and transmitting the converted coordinate signal to the computer system.

12. The method according to claim 11, wherein the step of converting includes:

converting a coordinate signal of an analog input from the touch panel into a digital coordinate signal;

converting the digital coordinate signal into a coordinate value in accordance with the interface integrated circuit sensed at the sensor; and

selecting the interface integrated circuit sensed at the sensor among the at least two interface integrated circuits.

13. The method according to claim 11, wherein the steps of driving the touch panel and converting the coordinate signal include serial communication.

14. The method according to claim 11, wherein the steps of driving the touch panel and converting the coordinate signal include USB communication.

15. The method according to claim 14, wherein the step of driving the touch panel includes transmitting a sense control signal to the sensor when the computer system is connected to the interface integrated circuit.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

Related Proceedings:

None.